CHAPTER 7: CAPITAL IMPROVEMENTS ELEMENT FOR IMPACT FEES

OVERVIEW

The purpose of this chapter is to provide the planning to support an impact fee program for the following facilities: Public Safety (police and fire protection), Recreation and Parks, and Roads. In order to support an impact fee program, the plan must meet Georgia's administrative rules for Capital Improvements Elements (CIEs). The rules, among other things, require that, for each facility included in the development impact fee program, the following must be included:

1. A service area must be established;

2. A quantifiable level of service (LOS) standard must be specified;

3. Long-term needs must be assessed; and

4. A schedule of improvements identifying projects to be funded with impact fees during the next five years must be submitted and then annually updated after its adoption.

LAND USE ASSUMPTIONS

It is necessary to quantify the amount of development that will pay impact fees. This is achieved based on the population and employment projections provided in this Community Agenda. The information in this section sets out the land use assumptions for the City of Sandy Springs. These are developmental parameters that are employed in preparing the CIE for impact fees.

Table 7.1 provides population, housing, and employment data needed to estimate levels of service and establish level of service standards, reiterated from Chapter 3 of this Community Agenda.

Table 7.1
Residential Land Use Assumptions, 2007-2027
City of Sandy Springs

City of Sandy Springs	2007	2012	2007-2012 Increase	2027	2007-2027 Increase
Total Housing Units	44,679	45,346	667	47,345	2,666
Households (@ 100% housing units)	44,679	45,346	667	47,345	2,666
Household Size	2.17	2.17	--	2.17	--
Household Population (@ 100%)	96,953	98,401	1,448	102,739	5,786
Group Quarters Population	874	1,152	278	1,986	1,112
Total Population (@ 100%)	97,827	99,553	1,726	104,725	6,898
Employment	86,912	92,213	5,301	108,599	21,687

Source: Jerry Weitz & Associates, Inc. February 2007.

According to the Focus Fulton 2025 Comprehensive Plan, Land Use Element, there was 2,876,071 square feet of vacant office space in Sandy Springs, as of the fourth quarter 2004.

That constituted 16 percent of the total office space built (18,376,826 square feet). The original source of these figures is Dorey's Office Guide. The employment increase due to filling vacant, already constructed spaces cannot be attributed to new development since no building permit will be issued or required for such occupancy. Fulton County's plan assumes an employment generation rate of one job per 250 square feet of office space and one job per 500 square feet of retail space. Nelson (2004)[9] projects 280 square feet per office employee but notes that employees in central business districts average 229 square feet per employee. He also uses a figure of 510 square feet per retail trade employee. Hence the employment generation assumptions of Fulton County relative to office space and retail space are confirmed and used.

The distribution of jobs by type must be known in order to make further assumptions about how the employees are distributed vis-à-vis the building space. As a part of the Community Assessment, data were collected for employment by zip codes based on the U.S. Census Bureau's County Zip Code Patterns for the year 2004. Two zip codes, 30328 and 30350, lie mostly if not exclusively within the City of Sandy Springs. Those data, which are shown in Table 7.2, are considered the best available for representing the distribution of employment by type of employment sector and by building space. From Table 7.2, it is observed that approximately 76.6 percent of all jobs were in office-institutional buildings and 23.4 percent of employment worked in retail and commercial spaces. These data provide the best available information for use in the Sandy Springs impact fee program and are assumed to represent future building in Sandy Springs.

Table 7.2
Employment by Industry
and Assignment of Building Type
Sandy Springs Zip Codes 30328 and 30350

Industry	2004 Employment, Zip Codes 30328 and 30350	% of Total Employment	Share in Offices	Share in Retail/ Comm. Spaces	Employ-ment in Offices	Employ-ment in Retail/ Comm. Spaces
Construction	2,345	3.5%	25%	75%	586	1,759
Manufacturing	261	0.4%	25%	75%	65	196
TCU	6,437	9.6%	75%	25%	4,828	1,609
Wholesale Trade	2,761	4.1%	25%	75%	690	2,071
Retail Trade	9,468	14.2%	0%	100%	0	9,468
FIRE	10,020	15.0%	95%	5%	9,519	501
Services	35,507	53.2%	100%	0%	35,507	0
Total	66,799	100%	76.6%	23.4%	51,195	15,604

Source: Jerry Weitz & Associates, Inc. 2004 data from U.S. Census Bureau, County Zip Code Patterns, 2004.

Of the total 21,687 jobs to be created in Sandy Springs over the next 20 years, it is assumed that approximately 76.6 percent will be in office space and 23.4 percent will be in retail and commercial spaces. The total capacity for new employment within existing, vacant office space

[9] Nelson, Arthur C. 2004. *Planner's Estimating Guide: Projecting Land-Use and Facility Needs*. Chicago: American Planning Association, pp. 40-43.

is calculated at 11,504 jobs (i.e., the 2004 vacant office space divided by 250 square feet per worker).

Accounting for the vacancy rates of office properties in Sandy Springs, the amount of new employment that will be accommodated through new building is calculated in Table 7.3. Table 7.4 provides estimates of new building space devoted to employment during the 2007-2012 and 2007 to 2027 time frames.

Table 7.3
Employment Land Use Assumptions, 2007-2027
City of Sandy Springs

City of Sandy Springs	2007	2012	2007-2012 Increase	2027	2007-2027 Increase
Office and Institutional Employment	66,575	70,635	4,060	83,187	16,612
Retail and Commercial Employment	20,337	21,578	1,241	25,412	5,075
Total Employment	86,912	92,213	5,301	108,599	21,687
Employment in now Vacant Office	--	4,004	2,500	10,000	10,000
Employment within New Development	--	88,209	2,801	98,599	11,687

Source: Jerry Weitz & Associates, Inc. February 2007. It is assumed that 1,504 of the 11,504 potential jobs in vacant office spaces as of 2004 have been filled through office occupancies between 2004 and 2007.

Table 7.4
New Building Space Constructed
Based on Projected Employment Increase, 2007-2027
City of Sandy Springs

City of Sandy Springs	Square Feet per Worker	2007-2012 Employment Increase in New Building Space	Square Feet of New Building Space, 2007-2012	2007-2027 Employment Increase in New Building Space	Square Feet of New Building Space, 2007-2027
Office - Institutional	250	2,145	536,250	8,952	2,238,000
Retail - Commercial	500	655	327,500	2,735	1,367,500
Employment within all New Development	--	2,801	863,750	11,687	3,605,500

Source: Jerry Weitz & Associates, Inc.

The functional population (Table 7.5) is total population plus total employment. For purposes of measuring level of service and setting level of service standards for public safety facilities, the total functional population is used.

Table 7.5
Functional Population, 2007-2027
City of Sandy Springs

City of Sandy Springs	2007	2012	2007-2012 Increase	2027	2007-2027 Increase
Total Population (@ 100%)	97,827	99,553	1,726	104,725	6,898
Total Employment	86,912	92,213	5,301	108,599	21,687
Total Functional Population	184,739	191,766	7,027	213,324	28,585

Source: Jerry Weitz & Associates, Inc.

PUBLIC SAFETY – FIRE

Service Area

The service area for fire department facilities is the city limits of Sandy Springs.

Inventory of Facilities

The inventory of fire stations serving Sandy Springs is provided in Table 7.6. Three of the four fire stations listed in Table 7.6 are owned by the City of Sandy Springs, while the fourth is operated by Sandy Springs via intergovernmental agreement with the City of Atlanta.

Table 7.6
Fire Stations and Capital Stock
City of Sandy Springs

Number and Name	Location	Square Footage	Heavy Vehicles
1. Johnson Ferry #2	Johnson Ferry Rd/ Sandy Springs Circle	7,000	2
2. Spalding #6 (also is #16)	Roberts Drive, Spalding Drive and Dunwoody Club Drive	7,000	2
3. Heards Ferry #22	Heards Ferry Road near Heards Road	7,000	1
4. Atlanta-Sandy Springs Fire Station #4 (Atlanta Fire Station #39)	4697 Wieuca Road, NE (leased per intergovernmental agreement)	6,000	1
5. Administration	City Hall (Fire Department Headquarters)	1,606	0
Total Space, Fire Department		28,606	6

Sources: Lord, Aeck & Sargent. 20 Year Space Needs Analysis, City of Sandy Springs, March 2007. Real Estate Advisory, LLC, Property Condition Assessment Draft Reports for the four fire stations, 2007 (draft).

Level of Service Measure

Various levels of service measures for fire facilities can be used. These include: the amount of square feet of fire facility space per functional population, and the number of heavy vehicles (fire engines and ladder trucks) per functional population. The square footage per functional population is considered a good measure of the level of service for the impact fee program, because fire station space can consist of administrative space, storage space, living space for firefighters, and enclosed vehicle parking spaces. Fire equipment that has a useful life of 10 years or more is eligible for funding with impact fees. The measure of fire engines per functional population is also needed in order to determine how much future needs for those capital facilities can be attributed to new growth and development.

Existing Levels of Service

The existing level of service for fire facilities (building space) in Sandy Springs is 0.15 square feet per functional population and 1 vehicle per 30,789 functional population. This is shown in Tables 7.7 and 7.8.

Table 7.7
Fire/EMS Facilities
Existing Level of Service, Building Space, 2007
City of Sandy Springs

Service Area	Fire/EMS Square Feet	2007 Functional Population	2007 Existing Level of Service
City of Sandy Springs	28,606	184,739	0.15 sq. ft. per functional population

Source: City of Sandy Springs, April 2007. Functional population from Table 7.5.

Another measurement, "engines per functional population," is needed in that fire engines must be placed at fire stations as they expand, and the storage of fire trucks is a key determinant in sizing fire stations.

Table 7.8
Fire/EMS Facilities
Existing Level of Service, Fire Engines, 2007
City of Sandy Springs

Service Area	2007 Rolling Stock	2007 Functional Population	2007 Existing Level of Service
City Limits	6 vehicles	184,739	1 vehicle per 30,789 functional population

Source: City of Sandy Springs, April 2007. Functional population from Table 7.5.

Projection of Needs

A 20 year space needs analysis for Sandy Springs has been completed for all municipal building spaces. The analysis suggests that all four of the fire stations will need to be renovated, relocated or rebuilt over the 20 year period of the Comprehensive Plan, or at least three will need to be refurbished within ten years. The space needs study suggests that the city will consider the strategic relocation of fire stations in the city and has a Station Relocation Study pending (not available at this time). The space needs study suggests that a total of five stations ultimately will be needed in Sandy Springs. With regard to fire department headquarters, the space needs study projects a need of 645 square feet, for a total of 2,251 square feet. The space needs study also indicates that existing three-vehicle fire stations need to be reconfigured and expanded by approximately 2,000 square feet to account for additional storage, file and computer areas. Total projected needs from these studies are shown in Table 7.9 below.

Table 7.9
20 Year Projection of Needs
Fire Stations and Fire Administration Space
City of Sandy Springs

Number and Name	Location	Square Footage
#2 Johnson Ferry	Johnson Ferry Rd/ Sandy Springs Circle	9,000
#6 Spalding (also is #16)	Roberts Drive, Spalding Drive, and Dunwoody Club Drive	9,000
#22 Heards Ferry	Heards Ferry Road near Heards Road	9,000
Atlanta-Sandy Springs Fire Station #4 (Atlanta Fire Station #39)	4697 Wieuca Road, NE (leased per intergovernmental agreement)	8,000
New Fire Station	(TBD)	9,000
Administration	City Hall (Fire Department Headquarters)	2,251
Total Space, Fire Department		46,251

Sources: Derived from Lord, Aeck & Sargent. 20 Year Space Needs Analysis, City of Sandy Springs, March 2007.

Level of Service Standards

LOS Standards are established based on the 20-year needs described here in relation to the total functional population served in 2027.

Table 7.10
Fire/EMS Facilities
Level of Service Standard for Building Space
City of Sandy Springs

Service Area	Fire/EMS Square Feet Needed in 2027	2027 Functional Population	Level of Service
City of Sandy Springs	46,251	213,324	0.21 sq. ft. per functional population

Source: Calculated from Previous Tables.

Sandy Springs will need to equip the new fire station with two fire department vehicles. Considering that need, the level of service standard for fire heavy vehicles is shown below.

Table 7.11
Fire Heavy Vehicle
Level of Service Standard
City of Sandy Springs

Service Area	2027 Rolling Stock	2027 Functional Population	Level of Service Standard
City Limits	8 vehicles	213,324	1 vehicle per 25,415 functional population

Source: City of Sandy Springs, April 2007. Functional population from Table 7.5.

Comparison of Levels of Service

Table 7.12 compares the existing level of service with the level of service standard. The comparison is important because, if the level of service standard is set higher than the existing level of service, a "deficiency" is created which needs to be remedied and which must be funded with revenues other than development impact fees.

Table 7.12
Fire Department
Comparison of Levels of Service

Level of Service Measure	Existing Level of Service	Level of Service Standard
Square Feet per Functional Population	0.15 sq. ft. per functional population	0.21 sq. ft. per functional population
Vehicles per Functional Population	1 vehicle per 30,789 functional population	1 vehicle per 25,415 functional population

Source: Calculated from Previous Tables.

Five-Year Growth Needs

The CIE must plan for an increase in functional population of 7,027 during the next five years. At the LOS standard of 0.21 square feet of functional population, the five year functional population increase generates a demand for 1,476 square feet of new space. Sandy Springs can collect an impact fee for the fire department (part of public safety total) equal to the cost of providing 1,476 square feet of fire department space.

With regard to fire vehicles, at the LOS standard of one vehicle per 25,415 functional population, the increase in functional population of 7,027 during the next five years generates a demand for 0.276 or 27.6 percent of a new fire vehicle. Sandy Springs can collect an impact fee for the fire department (part of public safety total) equal to the cost of providing 27.6 percent of a fire vehicle (engine or quint).

Schedule of Improvements

The CIE needs to provide for projects to meet the five-year demands. The schedule of improvements (Table 7.13) only shows impact fee-eligible projects. There are a number of specific improvement projects to existing fire stations which will be needed but which have to be funded with revenues other than development impact fees. These are, simply, the addition of fire department space equal to 1,476 square feet and one fire vehicle, a portion of which can be funded with impact fees.

Table 7.13
Schedule of Improvements, 2007-2012
Sandy Springs Fire Department (Part of Public Safety) Impact Fee Program

Capital Improvement	2007-08	2008-09	2009-10	2010-11	2011-12	Total (07-12)	Funding Sources
Purchase New Fire Engine	--	--	--	--	$606,234	$606,234	Impact fees (27.6%) ($167,321) Other sources (72.4%)
Add 1,476 square feet of building space (@ $240 per square foot provisional)	--	--	--	--	$354,240	$354,240	100% impact fee eligible
Engineering and architectural design @ 15% of building construction cost	--	--	--	$53,136	--	$53,136	100% impact fee eligible
Total Costs	--	--	--	$53,136	$960,474	$1,013,610	--
Total Costs of Growth (Impact Fee Eligible Costs)	--	--	--	$53,136	$521,561	$574,697	56.6% of projects are impact fee funded

PUBLIC SAFETY – POLICE

Service Area

The service area for police department facilities is the city limits of Sandy Springs.

Inventory of Facilities

The inventory of existing police facility space serving Sandy Springs is provided in Table 7.14.

Table 7.14
Police Facility Space
City of Sandy Springs

Type Facility	Square Footage
Police Station	16,325
Total	16,325

Source: Lord, Aeck & Sargent, 2007.

Level of Service Measure

The level of service measure for police facilities is the amount of square feet of police facility space per functional population.

Existing Level of Service

The existing level of service for police facilities (building space) in Sandy Springs is 0.088 square feet per functional population as shown in Table 7.15.

Table 7.15
Sandy Springs Police Facilities
Existing Level of Service, 2007

Service Area	2007 Functional Population	Police Square Feet	2007 Existing Level of Service
City Limits	184,739	16,325	0.088 Square feet per functional population

Source: City of Sandy Springs, April 2007. Functional population from Table 7.5.

Projection of Needs

A 20 year space needs analysis for Sandy Springs has been completed for all municipal building spaces. The analysis suggests that existing police facility space is undersupplied. Accounting systematically for all current needs, the analysis indicates that Sandy Springs

currently needs 26,936 square feet of space. It also calculates growth needs at 29,391 square feet, for a total 20-year need of 45,716 square feet of police facility space. That number is used to establish a level of service standard for police facilities.

Level of Service Standard

The level of service standard is calculated by dividing the total square feet needed at the end of the planning horizon (2027) by the functional population in 2027, as shown in Table 7.16 below.

Table 7.16
Police Department Facilities
Level of Service Standard for Building Space
City of Sandy Springs

Service Area	Police Square Feet Needed in 2027	2027 Functional Population	Level of Service Standard
City of Sandy Springs	45,716	213,324	0.21 sq. ft. per functional population

Source: Calculated from Previous Tables.

Comparison of Levels of Service

Table 7.17 compares the existing level of service with the level of service standard. The comparison is important because, if the level of service standard is set higher than the existing level of service, a "deficiency" is created which needs to be remedied and which must be funded with revenues other than development impact fees.

Table 7.17
Police Department
Comparison of Levels of Service

Level of Service Measure	Existing Level of Service	Level of Service Standard
Square Feet per Functional Population	0.088 sq. ft. per functional population	0.21 sq. ft. per functional population

Source: Calculated from Previous Tables.

Five-Year Growth Needs

The CIE must plan for an increase in functional population of 7,027 during the next five years. At the LOS standard of 0.21 square feet of functional population, the five year functional population increase generates a demand for 1,476 square feet of new police facility space. Sandy Springs can collect an impact fee for the police department (part of public safety total) equal to the cost of providing 1,476 square feet of police department space.

Schedule of Improvements

The CIE needs to provide for projects to meet the five-year demands. The schedule of improvements (Table 7.18) only shows impact fee-eligible projects. The schedule is, simply, police department space equal to 1,476 square feet.

Table 7.18
Schedule of Improvements, 2007-2012
Sandy Springs Police Department (Part of Public Safety) Impact Fee Program

Capital Improvement	2007-08	2008-09	2009-10	2010-11	2011-12	Total (07-12)	Funding Sources
Add 1,476 square feet of building space (@ $275 per square foot provisional)	--	--	--	--	$405,900	$405,900	100% impact fee eligible
Engineering and architectural design @ 15% of building construction cost	--	--	--	$60,885	--	$60,885	100% impact fee eligible
Total Costs	--	--	--	$60,885	$405,900	$466,785	--
Total Costs of Growth (Impact Fee Eligible Costs)	--	--	--	$60,885	$405,900	$466,785	100% of projects are impact fee funded

RECREATION AND PARKS

Service Area

The service area for recreation and parks is the city limits of Sandy Springs.

Inventory of Municipal Facilities

The inventory of recreation and park facilities serving Sandy Springs is provided in Table 7.24. The inventory identified 22 recreation sites, which serve residents of the community. Of these sites, 12 are municipal parks, one is an undeveloped site dedicated for park use and three are indoor facilities. The inventory shown in Table 7.24 includes only those facilities currently owned or leased and operated by the City of Sandy Springs. Facilities for which the City "has no management authority," as indicated in the master plan, are excluded.

Table 7.19
Inventory of Municipal Park and Recreation Acreage, 2007
City of Sandy Springs

Name	Location	Total Acres	Developed Acres	Undeveloped Acres
1. E. Conway Dr.	East Conway Drive	0.44	0.44	0
2. Abernathy Park	Johnson Ferry at Abernathy	3.70	1.7	2.0
3. Allen Rd. Park	I-285 at Lake Forest Drive	3.20	1.0	2.2
4. Hammond Park	Hammond Drive near the Glenridge Connector	13.30	13.3	0
5. Island Ferry Park	Chattahoochee River	11.2	0	11.2
6. Morgan Falls Ball Fields	Morgan Falls Road (leased from Fulton County)	28.4	28.4	0
7. Bull Sluice	Morgan Falls Road	27.0	0	27.0
8. Morgan Falls Dam Riverpark	Morgan Falls Road (leased from Georgia Power)	3.3	0	3.3
9. Ridgeview Park	South Trimble Road east of SR 400	21.40	3.0	18.4
10. Riverside Park	Johnson Ferry River Access	4.10	0	4.10
11. Trust for Public Land (Myles property)	Dalrymple/Riverside	26	0	26
12. Sandy Springs Tennis Center	Abernathy Road	24.36	20	4.36
13. Abernathy Greenway	Abernathy Road	20	0	20
14. Big Trees Forest	Roswell Road	20*	1	19
Total	--	206.4	68.84	137.56

Source: City of Sandy Springs System-Wide Recreation and Parks Master Plan (March 2007 draft).
* An additional 10 acres is under a Fulton County Conservation Easement.

Existing Level of Service

Table 7.25 provides an analysis of existing level of service for parkland, including developed and undeveloped components.

Table 7.20
Existing Recreation and Park Level of Service
City of Sandy Springs, 2007

Level of Service Measure	Existing Park Lands	2007 Household Population[10] (Persons)	2007 Existing Level of Service
Total Recreation and Park Acreage	112.74	96,953	1.16 acres per 1,000 population
Developed Recreation and Park Acreage	47.4	96,953	0.49 acres per 1,000 population
Undeveloped and Greenspace Acreage	65.34	96,953	0.67 acres per 1,000 population

Source: Compiled from Recreation and Parks Master Plan and discussions with Sandy Springs Recreation and Parks Director, April 2007.

Recommended Level of Service Standard – Professional Association

The National Recreation and Parks Association (NRPA) promulgates guidelines for recreation system acreage, park size and service areas and for individual facilities. These guidelines were originally developed in the mid-1990s and have not been updated. As such, they form the baseline for developing more specific standards. The accepted NRPA range of park acreage standards is from 6.25 to 10.50 acres per 1,000 persons.

Level of Service Standard for the Impact Fee Program

The City of Sandy Springs aspires to provide a much greater level of service for recreation and parks facilities than is currently provided. However, to set a level of service standard for the impact fee program that is higher than the existing level of service creates what is termed a "deficiency" in the level of service. When a deficiency exists, the local government adopting an impact fee must present a plan to bring the level of service of facilities serving the current population up to the adopted standard. Doing so at any level of service standard higher than

[10] The Sandy Springs future population increase consists of household population and group quarters population. For purposes of this impact fee program, only the future household population is considered in this analysis. The reason for using household population as opposed to the total population is that the recreation and park impact fee will be charged on building permits for housing units, not for group quarters facilities. Additionally, the impacts of new group quarters population on the Sandy Springs Recreation and Parks System is considered to be de minimus if there is demand at all on the system by such residents.

the current level of service introduces huge funding obligations for the City, for which municipal funds may not be available. For that reason, in order to avoid funding liabilities that the City may be unprepared to accept, the best approach in establishing an impact fee program is to set the level of service standard at the existing level of service (or thereabouts). Then, new residential development will be charged impact fees that will pay for the provision of additional recreation and park lands at the level of service now supplied to Sandy Springs residents.

Table 7.21
Level of Service Standards
City of Sandy Springs Recreation and Parks

Level of Service Measure	Level of Service Standard
Total Park and Recreation Acreage	1.16 acres per 1,000 household population
Developed Park and Recreation Acreage (included within the total)	0.5 acres per 1,000 household population

Table 7.26 provides level of service standards for the recreation and parks impact fee program. Two different standards are proposed: one for total park land and the other for developed park land. The purpose of the two standards is that a capital improvements schedule can be developed that allows the City to use impact fee funds for both land acquisition (i.e., the total park land LOS standard) and for park development (i.e., the developed park acreage standard). That approach gives the City Recreation and Parks Department maximum flexibility in spending impact fee funds.

Note that the level of service standard for developed parkland is slightly higher (at 0.5 acre per 1,000 population) than the existing level of service (0.49 acre per 1,000 population). That difference equates to a deficiency of 1.1 acres of developed park land. Sandy Springs can easily remedy that deficiency and the short-term work program for recreation and parks provides for reconciling that deficiency with additional parkland development.

Table 7.22
Projection of Park Land Needs, 2007-2027
Based on Level of Service Standards
City of Sandy Springs

	2007	2012	2027
Household Population	96,953	98,401	102,739
Total Parkland Needed at 1.16 acres per 1,000 population	112.74	114.14	119.18
Developed Parkland (part of total) at 0.5 acre per 1,000	48.5	49.2	51.3

New household residential development (household population increase) projected for the upcoming five-year period will result in the need for Sandy Springs to add 1.4 acres of park land to the Sandy Springs Recreation and Park System during the next five years. An impact fee can be developed to ensure that new residential development pays the costs of providing that additional parkland. Also, of the 1.4 acres of park land required to satisfy new household residential development (household population increase), Sandy Springs will need to develop 0.7 acres of park land to satisfy the developed parkland level of service standard) over the next five years. Impact fees can be charged to pay for that park development.

Facility Costs Attributed to Growth – Acquisition of Land

For the purposes of an initial determination for calculating potential impact fees for recreation and parks, estimates of the cost of acquiring park land in southern Sandy Springs, at a cost of $2,000,000 for a ten-acre tract, or $200,000 per acre, will be used. Recalculation of the acreages to be provided may be adjusted as other parcels become available. Nonetheless, at the level of service standard, new household residential development (household population increase) during the next five years will create the need for 1.4 acres of parkland, 100 percent of the cost of which can be paid for with development impact fees. The growth cost to meet the overall parkland level of service standard is therefore $280,000.

Sandy Springs estimates that the cost of developing its first-priority park, in southern Sandy Springs, is $2,000,000 for a ten-acre tract, or $200,000 per acre. At the level of service standard, new household residential development (household population increase) during the next five years will create the need for 0.7 acres of parkland, 100 percent of the cost of which can be paid for with development impact fees. The growth cost to meet the developed parkland level of service standard is therefore $140,000. The recreation and park impact fee program can therefore charge an impact fee for a total of $420,000 in parkland acquisition and parkland improvements during the next five years.

Alternative Recreation and Parks Approach – Park Development

What if the current park proposal to acquire and develop 10 acres is considered in establishing the level of service standard for 2007? It is reasonable to consider this alternative, since Sandy Springs is planning to provide for the acquisition and development of a 10-acre park during the next five years.

Table 7.23
Alternative Level of Service Standards
City of Sandy Springs Recreation and Parks

Level of Service Measure	Level of Service Standard
Total Park and Recreation Acreage	1.26 acres per 1,000 household population
Developed Park and Recreation Acreage (included within the total)	0.59 acres per 1,000 household population

Table 7.24
Projection of Park Land Needs, 2007-2027
Based on Level of Service Standards
City of Sandy Springs

	2007	2012	2027
Household Population	96,953	98,401	102,739
Total park land needed at 1.26 acres per 1,000 population	122.16	124.0	129.45
Developed park land (part of total) at 0.59 acre per 1,000	57.2	58.0	60.6

New household residential development (household population increase) projected for the upcoming five-year period will result in the need for Sandy Springs to add 1.84 acres of park land to the Sandy Springs Recreation and Park System during the next five years. An impact fee can be developed to ensure that new residential development pays the costs of providing that additional parkland. Also, of the 1.84 acres of park land required to satisfy new household residential development (household population increase), Sandy Springs will need to develop 0.8 acres of park land to satisfy the developed parkland level of service standard) over the next five years. Impact fees can be charged to pay for that park development.

Table 7.25
Schedule of Improvements, 2007-2012
Sandy Springs Recreation and Parks Impact Fee Program

Capital Improvement	2007-08	2008-09	2009-10	2010-11	2011-12	Total (07-12)	Funding Sources
Parks projects – engineering and design fees	--	$200,000	--	--	--	$200,000	Impact fees 100%
Morgan Falls river park – Phase I, II and III construction projects	--	$300,000	$500,000	$200,000	--	$1,000,000	Impact fees 100%
Acquire R.O.W., easements and/or land for greenway connections and other activities for Greenprint plan	$1,200,000	$1,200,000	$1,200,000	$1,200,000	$1,200,000	$6,000,000	Impact fees 100%
Total Cost	$1,200,000	$1,700,000	$1,700,000	$1,400,000	$1,200,000	$7,200,000	Impact fees 100%

ROADS

Service Area

The service area for the transportation system is the city limits of Sandy Springs. The City will use impact fees to make improvements to the transportation system located throughout the City of Sandy Springs in order to serve future development.

Inventory of Road Network

The road network to be included in the analysis is comprised of the arterial and collector road network within Sandy Springs. Several streets within the Sandy Springs Town Center area are designated collector streets as part of the grid network. The Town Center area is defined by the boundary for the Sandy Springs Livable Centers Initiative (LCI) study in the vicinity of Roswell Road north and south of I-285. Figure 7.1 indicates the arterial and collector network, as well as the boundary area for the Town Center.

Level of Service Standard

The existing level of service for the arterial and collector road system in Sandy Springs based on an average volume to capacity (v/c) ratio. For the current roadway network this v/c ratio averages 0.73. This current condition will serve as the level of service standard and improvements will aim to maintain an overall v/c ratio of 0.73 with future development.

Projection of Needs

Growth related travel needs in Sandy Springs are based on accommodating the additional population of 5,786 people in households, 1,112 people in group quarters, and 21,687 additional employees between 2007 and 2027. This projected growth is within 5% of the overall growth projected by the ARC travel demand model for year 2030 conditions. Therefore, the year ARC year 2030 travel demand model data was used in calculation of future needs. This provides consistency with the regional model for purposes of compatibility to regional planning efforts.

The anticipated growth in Sandy Springs resulting from development will increase the daily travel by 1,145,486 vehicle miles of travel (VMT) from 2005 to 2030. This is equivalent to an increased of 916,400 VMT for the twenty year period from 2007 through 2027. The resulting v/c ratio for all arterials and collectors within Sandy Springs is 0.85 for future year 2030, which reflects a deteriorating service condition over the current v/c ratio of 0.73.

The Comprehensive Plan Needs Assessment provides a detailed listing of travel needs identified through analysis and input from the community. In order to develop projects that provide effective traffic operations, needs areas were compared to volume based level of service criteria. The v/c ratios used to examine improvement areas are those used in the Atlanta Regional travel demand model, as indicated below.

- LOS A through C is equivalent to a v/c of 0.7 or less.
- LOS D is equivalent to a v/c of 0.701 to 0.85.
- LOS E is equivalent to a v/c of 0.851 to 1.00.
- LOS F is equivalent to a v/c greater than 1.00.

The examination of roadway capacity for individual projects focuses on providing LOS D or better conditions. The following volume based capacity thresholds have been defined for the upper limit of LOS D conditions:

- 2-lane undivided road with turn lanes or 3-lane road – 16,600 vehicles per day for two lanes = 8,300 vehicles per day per lane
- 4-lane median divided or 5-lane road – 35,000 vehicles per day for four lanes = 8,750 vehicles per day per lane
- 6-lane median divided road – 52,500 vehicles per day for six lanes = 8,750 vehicles per day per lane

These capacity thresholds are based on "Generalized Annual Average Daily Volumes for Use in GRTA's DRI Review", Table 5 of the GRTA DRI review Technical Guidelines. These capacity thresholds were derived from solutions sets to the arterial analysis procedures of the Highway Capacity Manual (HCM) by the Transportation Research Board.

Schedule of Improvements

The roads and related transportation facilities to be included in the road impact fee were determined through an examination of existing transportation plans, including regional, state, and county plans, as well as additional analysis performed as a part of the comprehensive plan development. The transportation improvements were developed to respond to the identified needs and address the community based issues and opportunities. The transportation section of the Comprehensive Plan Community Assessment provides the background on plan development and indicates the projects included in the five year Community Improvement Plan (CIP).

These CIP projects were further examined to determine their implementation within the five year plan and to estimate their associated costs by year. Figure 6.3 indicates these costs and provide notes on implementation.

The identified projects were then examined to determine their eligibility for funding via impact fees. Table 7.32 indicates the percent of estimated cost that is allocated to impact fees. The paragraphs below describe how the percent of impact fee eligibility was determined for various types of improvements. As these tables show, $56,799,307 of the total $141,582,122 (40%) are impact fee eligible costs.

Roadway Widening to Provide Direct Capacity Increase

This includes improvements such as addition of through lanes or continuous center turning lanes to improve roadway capacity to address new development needs (refer to projects C8, D2, D3, and D4). Planning and engineering for these roadway improvement projects is included in the five year CIE. Where congestion is already present along roads, the additional capacity above that needed to accommodate current demand will be eligible for funding through impact fees. The percent of future capacity needed to satisfy current demand is equal to: current volume / future capacity. The current volume was based on GDOT count station data (where available) or ARC's regional travel demand model for 2005. Future capacities were based on the LOS D thresholds indicated in the LOS standard described above.

Based on this methodology, the following is a summary of the percent of the capacity improvement that addresses new growth and is, therefore, eligible for impact fee funding:

- C8 - Johnson Ferry Road/Glenridge Road between Abernathy Road and Hammond Drive – The section of Johnson Ferry from Abernathy to Sandy Springs Circle (45% of road) is currently congested. [Current volume / future capacity = 29,000/16,600 = 1.8 times capacity]. Therefore, all of the future capacity for this portion of the corridor will be used to address current needs. The remaining sections of the corridor (55% of its length) are not currently congested beyond LOS D. Therefore the portion of the road eligible for impact fees = 0 * 45% + 1 x 55% = 55%.
- D2 – Peachtree Dunwoody Road between Abernathy Road and Spalding Drive – Portions of the corridor are currently congested. [Current volume / future capacity = 13,460/35,000 = 38% used for current demand]. Therefore, the portion of road eligible for impact fees is 62%.
- D3 – Dunwoody Place from Northridge Road to Roswell Road - Portions of the corridor are currently congested. [Current volume / future capacity = 15,300/35,000 = 44% used for current demand]. Therefore, the portion of road eligible for impact fees is 56%.
- C10 and D4 – Hammond Drive between Roswell Road and Peachtree Dunwoody Road - Portions of the corridor are currently congested. [Current volume / future capacity = 15,220/35,000 = 43% used for current demand]. Therefore, the portion of road eligible for impact fees is 57%.

Construction of New roads to Address Growth Needs

This includes construction of new arterial and collector roads. In the case of the Sandy Springs Town Center area, the new roads will include segments of the grid network to be designated as collector streets (project C9). New construction of the Boylston Drive extension from Hammond Drive to Carpenter Drive will provide additional capacity to serve new development in this area (project C11). It will also include the planning, engineering, and construction for a tunnel under I-285 to extend Sandy Springs Circle to the south (project C7). These projects provide additional capacity for new growth and are, therefore, eligible for funding with impact fees.

Improvement to Intersection Capacity

This includes intersection capacity enhancements at intersections of arterial and collector roads which are anticipated to be deficient in year 2030. The intersection improvements indicated in projects A11, B5, and B6 address some locations that experience current congestion. Therefore, the portion of these projects that includes non-congested intersections are considered eligible for impact fee funding.

- B5 – Intersection improvements along Roswell Road – 4 of 10 locations require improvements to address current congestion. Therefore, the portion addressing new development, which is eligible for impact fee funding is 60%.
- A11 and B6 – Intersection improvements on arterials and collectors – 4 of 8 locations indicated for project B6 require improvements to address current congestion. Therefore, the portion addressing new development, which is eligible for impact fee funding is 50%. A11 is intended for use for similar locations to the more specific B6. Therefore, the portion of A11 addressing new development, which is eligible for impact fee funding is assumed to also be 50%.

- C1 – Align Carpenter Road and Cliftwood Road at Roswell Road – The section of Roswell Road is currently congested and future capacity will not remove the congested condition. [Current volume / future capacity = 44,000/35,000 = 1.3 times capacity]. Therefore, all of the future capacity for this portion of the corridor will be used to address current needs.

Construction of Sidewalks and Transit Circulator in Sandy Springs Town Center

The construction of a sidewalk system in areas anticipated for significant growth at high density will provide trip reductions as drivers shift to the pedestrian travel mode for short trips. Trip Generation, 7th edition, by the Institute of transportation engineers provides guidance on the number of trips that can shift to pedestrian travel modes in densely developed areas having a mixture of land uses. These pedestrian trips will be removed from the arterial network to indicate the reduction in travel demand as an effective increase in capacity available for other automobile trips. Information documented in Trip Generation, 7th Edition, by ITE indicates a potential trip capture rate of 30 percent of retail trips and 10 percent of residential trips within the area. Therefore, the sidewalk improvement projects within the Town Center area provide capacity for new development and are eligible for funding using impact fees.

The transit circulator is expected to serve as an extension to the pedestrian travel model within the Sandy Springs Town Center. Therefore, funding of the transit circulator design and implementation plan (project C4) with impact fees provides the same benefit of reducing automobile traffic on arterials and collector streets.

Construction of Sidewalks along Through Streets in Sandy Springs

In order to enhance mobility in the City of Sandy Springs, improved capacity along through streets is needed to accommodate future development. Travel by pedestrians walking along the sidewalk network can reduce demand for roadway travel. Additional sidewalk capacity is recommended to provide sidewalk along all roads with a functional classification of collector and above (project F3).

Table 7.26

TRANSPORTATION CIP FOR IMPACT FEE PROGRAM: FISCAL YEAR 2008-2012

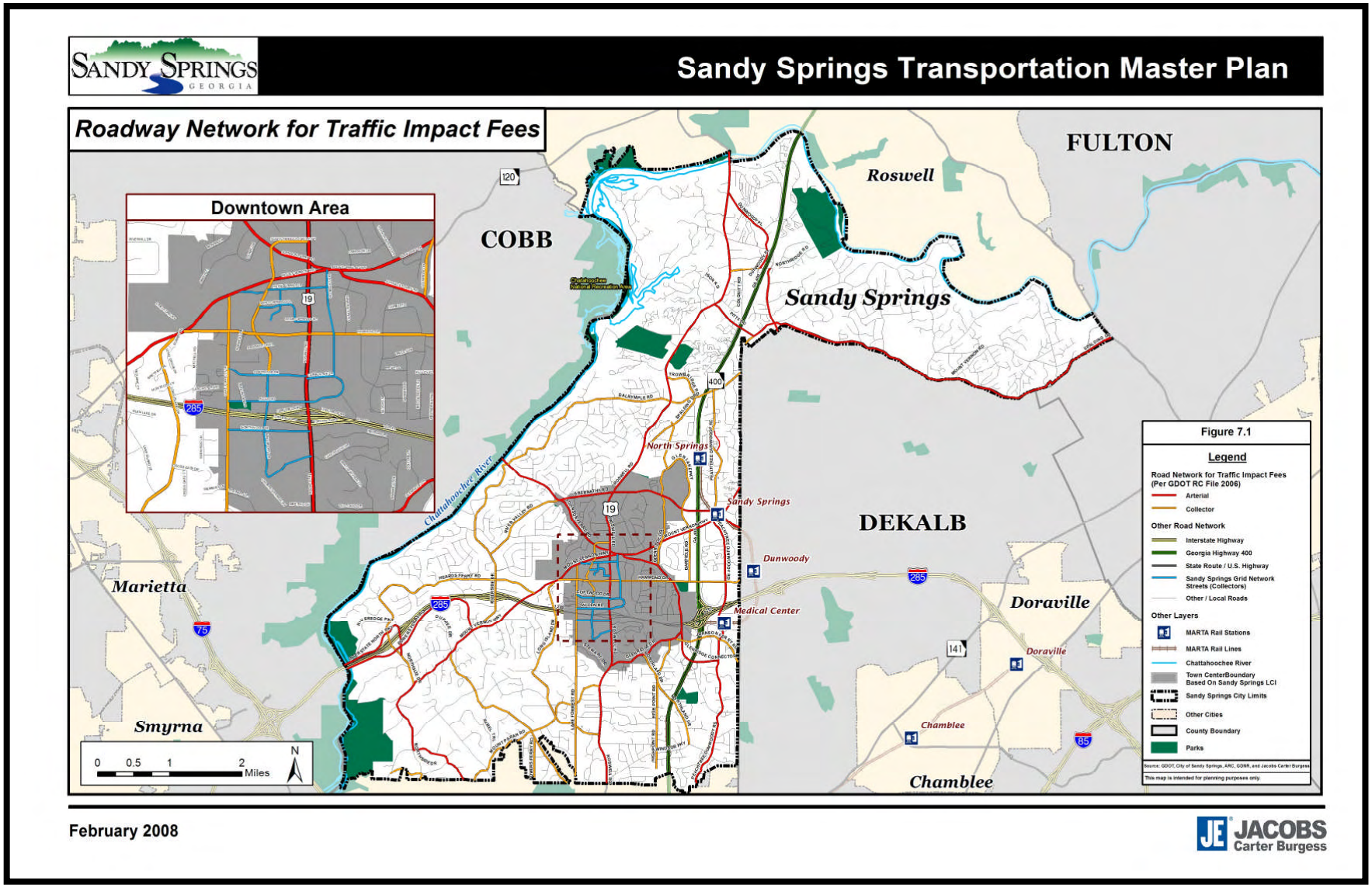
	Improvement	2008	2009	2010	2011	2012	Priority	Notes/Costs
A.	***GUIDING PRINCIPLE: PROVIDE FOR EFFICIENT USE OF EXISTING INFRASTRUCTURE***							
A11	Provide intersection and operational improvements per ongoing Intersection Operations and Improvement Plan, including: signal timing, signal system coordination, and installation of traffic signals.	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	Ongoing	Impact Fees 50% Other sources 50%
B.	***GUIDING PRINCIPLE: IMPROVE CONGESTION BOTTLENECKS / "HOT SPOTS"***							
B5	Provide intersection capacity/operational improvements to include turn lane modifications, median segments near intersections, pedestrian crosswalks and sidewalk enhancements at congested intersections along Roswell Road to include (but not limited to): Roberts Drive, North River Parkway, Hightower Trail, Pitts Road, Morgan Falls Road, Trowbridge Road, Dalrymple Road, Glenridge Drive, Mount Paran Road, and Windsor Parkway.	$1,600,000	$1,600,000	$1,600,000	$1,600,000	$1,600,000	Ongoing	Impact Fees 60% Other sources 40%
B6	Provide intersection capacity/operational improvements to include minor intersection geometrics, installation of turn lanes, and/or implementation of signal or roundabout at congested intersections to include (but not limited to): Glenridge Drive at Hammond Drive, Glenridge Drive at Johnson Ferry Road, Hammond Drive at Lake Forrest Drive, Mount Paran Road at Powers Ferry Road, Peachtree Dunwoody Road at Lake Hearn Drive, Spalding Drive at Dunwoody Club Drive, Spalding Drive at Pitts Road, and Spalding Drive at Jett Ferry Road (see project A11).	$1,200,000	$1,200,000	$1,200,000	$1,200,000	$1,200,000	Ongoing	Impact Fees 50% Other sources 50%
C.	***GUIDING PRINCIPLE: PARK ONCE AND CIRCULATE IN DOWNTOWN SANDY SPRINGS VIA TRANSIT AND PEDESTRIAN MODES***							
C2	Provide wide sidewalk connections for east-west movement across downtown Sandy Springs between Sandy Springs Circle and Boylston Drive to include Sandy Springs Place/new connector road, Hilderbrand Drive, Hammond Drive, and Cliftwood Drive/Carpenter Drive).	$510,000	$510,000	$510,000	$510,000	$510,000	Medium	Impact Fees 100% Other sources 0%
C3	Provide wide sidewalk connections for north-south movement in downtown Sandy Springs along Sandy Springs Circle, Boylston Drive, Blue Stone Road, and Sandy Springs Place.	$790,000	$790,000	$790,000	$790,000	$790,000	Medium	Impact Fees 100% Other sources 0%
C4	Prepare design and implementation plan for transit circulator in downtown Sandy Springs, express bus service to perimeter center, and express bus service to Sandy Springs MARTA Rail Station.	$0	$100,000	$100,000	$0	$0	High	Impact Fees 100% Other sources 0%
C5	Provide streetscape improvements along Roswell Road from Abernathy Road to Hilderbrand Drive, from Hammond Drive to Cliffwood Drive, and from I-285 to the City of Atlanta.	$306,000	$0	$804,000	$0	$0	Medium	Impact Fees 100% Other sources 0%
C6	Provide streetscape improvements along Sandy Springs Circle from Roswell Road to Hammond Drive.	$0	$375,000	$800,000	$800,000	$0	Medium	Impact Fees 100% Other sources 0%
C7	Complete concept design, planning/engineering, and construction of Sandy Springs Circle under I-285 to Kingsport Drive.	$0	$500,000	$500,000	$500,000	$2,500,000	Medium	Impact Fees 100% Other sources 0%
C8	Prepare design for improvement of Johnson Ferry Road between Abernathy and Sandy Springs Circle, Johnson Ferry Road between Mount Vernon and Highway and Glenridge Road, and Glenridge Road between Mount Vernon Highway and Hammond Drive to improve traffic capacity/operations and add sidewalk/bicycle facilities.	$0	$500,000	$635,000	$0	$0	High	Impact Fees 55% Other sources 45%
C9	Prepare concept design for completion of grid system in the Sandy Springs Town Center to include: Improvement of Boylston Road from Mt. Vernon Highway to Hammond Drive, extension of Boylston Road from Hammond Drive to Carpenter Road, construction of a new roadway and pedestrian connection from Sandy Springs Place to Boylston Road.	$250,000	$0	$0	$0	$0	High	Impact Fees 100% Other sources 0%
C10	Widen Hammond Drive from Glenridge Drive to Peachtree Dunwoody Road to increase roadway capacity and provide sidewalks on both sides.	$0	$0	$200,000	$200,000	$220,000	Medium	Impact Fees 57% Other sources 43%
C11	Extend Boylston Drive south from Hammond Drive to Carpenter Drive to provide two through lanes with sidewalk and bike lanes.	$0	$335,000	$1,000,000	$1,000,000	$1,000,000	High	Impact Fees 100% Other sources 0%

TRANSPORTATION CIP FOR IMPACT FEE PROGRAM: FISCAL YEAR 2008-2012

	Improvement	2008	2009	2010	2011	2012	Priority	Notes/Costs
D.	***GUIDING PRINCIPLE: PROVIDE FOR FUTURE TRAVEL DEMAND***							
D2	Complete concept design and continue planning/engineering for improvement of Peachtree Dunwoody Road from Abernathy Road to Spalding Drive as a "complete street" to include automobile, pedestrian, transit, bicycle, and landscaping/aesthetic components.	$0	$300,000	$0	$0	$0	High	Impact Fees 62% Other sources 38%
D3	Complete concept design and continue planning/engineering for improvement of Dunwoody Place from Northridge Road to Roswell Road as a "complete street" to include automobile, pedestrian, transit, bicycle, and landscaping/aesthetic components.	$0	$300,000	$0	$0	$0	High	Impact Fees 56% Other sources 44%
D4	Complete concept design and continue planning/engineering for Hammond Drive corridor between Glenridge Drive and Roswell Road to improve as a "complete street" to include automobile, pedestrian, transit, bicycle, and landscaping/aesthetic components.	$0	$300,000	$0	$0	$0	High	Impact Fees 57% Other sources 43%
E.	***GUIDING PRINCIPLE: PROMOTE PEDESTRIAN AND BICYCLE TRAVEL MODES FOR ACCESS TO PARKS AND COMMUNITY FACILITIES***							
E2	Construct sidewalks with bike lanes along River Valley Road from Johnson Ferry Road to Riverside Drive.	$256,000	$1,000,000	$0	$0	$0	Low	Impact Fees 100% Other sources 0%
E3	Construct sidewalks with bike lanes along Riverside Drive from River Valley Road to Heards Ferry Road and extend sidewalks north on Riverside Drive to swim and tennis club.	$200,000	$1,693,000	$0	$0	$0	Low	Impact Fees 100% Other sources 0%
E5	Install sidewalks along Mt. Vernon Parkway from Mt. Vernon Highway to Powers Ferry Road.	$600,000	$0	$0	$0	$0	Low	Impact Fees 100% Other sources 0%
E6	Install sidewalks along Mt. Vernon Highway from Lake Forest Drive to Powers Ferry Road.	$1,106,000	$0	$0	$0	$0	Low	Impact Fees 100% Other sources 0%
E7	Install sidewalks along Windsor Parkway from Highpoint Road to Roswell Road.	$230,000	$240,000	$953,000	$0	$0	Low	Impact Fees 100% Other sources 0%
F.	***GUIDING PRINCIPLE: SERVE MOBILITY NEEDS IN RESIDENTIAL AREAS WHILE PRESERVING NEIGHBORHOODS***							
F3	Provide sidewalk connectivity by filing in the gaps in the existing sidewalk network to provide sidewalk on one side of the road for all roads functionally classified as collector and above.	$900,000	$900,000	$900,000	$900,000	$900,000	Medium	Impact Fees 100% Other sources 0%

TOTAL COST FOR IMPACT FEE ELIGIBLE PROJECTS	$9,948,000	$12,643,000	$11,992,000	$9,500,000	$10,720,000	5 Year Total	$54,803,000
TOTAL COST FOR IMPACT FEE ELIGIBLE PROJECTS (WITH INFLATION)	$10,445,400	$15,930,180	$15,865,416	$13,196,925	$17,870,026	5 Year Total	$73,307,947
COSTS PROPOSED FOR IMPACT FEE (WITH INFLATION)	$8,093,400	$12,351,780	$12,410,071	$9,965,762	$13,978,294	5 Year Total	$56,799,307
BALANCE REQUIRED FROM OTHER SOURCES (WITH INFLATION)	$2,352,000	$3,578,400	$3,455,345	$3,231,163	$3,891,732	5 Year Total	$16,508,640

Notes:
- Costs are based on planning level Cost estimates and do not reflect more detailed estimates performed once design plans are prepared.
- Inflation of construction costs includes an assumed inflation rate plus labor and materials increase of 5% per year with an additional labor and materials increase of 15% in 2009 and 2012.
- Prioritization of projects includes high, medium, and low priority and also indicates funding of improvements for ongoing efforts, such as intersection operational improvements.


Sandy Springs Transportation Master Plan
Roadway Network for Traffic Impact Fees
Downtown Area
FULTON
COBB
DEKALB
Roswell
Sandy Springs
North Springs
Sandy Springs
Dunwoody
Medical Center
Doraville
Doraville
Chamblee
Chamblee
Marietta
Smyrna
Chattahoochee River
0 0.5 1 2 Miles
N
Figure 7.1
Legend
Road Network for Traffic Impact Fees (Per GDOT RC File 2006)
Arterial
Collector
Other Road Network
Interstate Highway
Georgia Highway 400
State Route / U.S. Highway
Sandy Springs Grid Network Streets (Collectors)
Other / Local Roads
Other Layers
MARTA Rail Stations
MARTA Rail Lines
Chattahoochee River
Town CenterBoundary Based On Sandy Springs LCI
Sandy Springs City Limits
Other Cities
County Boundary
Parks
Source: GDOT, City of Sandy Springs, ARC, GDNR, and Jacobs Carter Burgess
This map is intended for planning purposes only.
February 2008
JACOBS Carter Burgess